

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) Chemical vapor layer deposition apparatus comprising:
 - ~~a first and second precursor gas source having a sources, first valve and second valves connected thereto to said first and second precursor gas sources;~~
 - a second precursor gas source having a second valve connected thereto;
 - ~~a purge gas source, said purge gas source having a third valve connected thereto; , said valve permitting inert gas flow, first and said second precursor gas sources and said purge gas operate sequentially to define a deposition cycle,~~
 - wherein the first, second and third valves permit sequential flow of the first precursor gas, the second precursor gas and the purge gas defining a deposition cycle;
 - ~~a reaction chamber, said reaction chamber being connected to the said first, said second, and said third valves;~~
 - a gas phase reaction trap connected to the said reaction chamber; said , the trap having an inlet and an outlet, said inlet being connected to said reaction chamber, and an outlet, wherein the said trap has having a residence time at least equal to one deposition cycle; and
 - a backing pump connected to the said outlet of the said trap and to exhaust.
2. (currently amended) The apparatus of Apparatus as recited in claim 1 wherein the in which said inlet and said outlet are at the top of the said trap.

3. (currently amended) The apparatus of Apparatus as recited in claim 1 ~~2~~ further including comprising: a process pump, ~~said process pump being~~ connected between the said inlet of the said trap and the said reaction chamber.
4. (currently amended) The apparatus of Apparatus as recited in claim 1 wherein ~~the in which~~ said residence time is greater than the said deposition cycle.
5. (currently amended) The apparatus of Apparatus as recited in claim 1 ~~3~~ further including heating means for the ~~in which said trap further comprises~~:
a heater.
6. (currently amended) The apparatus of Apparatus as recited in claim 1 ~~3~~ further including in which said trap further comprises: an electrode in the said trap; and a ground connection to the said trap.
7. (currently amended) The apparatus of Apparatus as recited in claim 1 further including comprising: a surge flow suppresser connected to the said outlet of the said trap.
8. (currently amended) Atomic layer deposition apparatus comprising:
a ~~first and second~~ precursor gas source having a source, first valve and ~~second valves~~ connected thereto to said first and ~~second precursor gas sources~~;
a second precursor gas source having a second valve connected thereto;
a purge gas source, ~~said purge gas source~~ having a third valve connected thereto; ~~-, said valve permitting inert gas flow, first and said second precursor gas sources and said purge gas operate sequentially to define a deposition cycle,~~
wherein the first, second and third valves permit sequential flow of the first precursor gas, the second precursor gas and the purge gas defining a deposition cycle;

a reaction chamber, ~~said reaction chamber being connected to the~~ said first, said second, and said third valves;

a gas phase reaction trap connected to the said reaction chamber; ~~said~~ the trap having an inlet ~~and an outlet, said inlet being connected to said reaction chamber, and an outlet, wherein the~~ said trap has having a residence time at least equal to one deposition cycle; and

a backing pump connected to the said outlet of the said trap ~~and to~~ exhaust.

9. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ wherein the ~~in which said inlet and the~~ said outlet are at the top of the said trap.

10. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ 9 further including comprising: a process pump, ~~said process pump being~~ connected between the said inlet of the said trap and the said reaction chamber.

11. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ wherein the ~~in which~~ said residence time is greater than the said deposition cycle.

12. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ further including heating means for the ~~in which said trap further comprises:~~ a heater.

13. (currently amended) The apparatus of ~~Apparatus as recited in claim 8~~ further including in which ~~said trap further comprises:~~ an electrode in the said trap; and a ground connection to the said trap.

14. (currently amended) A method of atomic layer deposition comprising the steps of:

sequentially flowing a first and second precursor gas, a purge gas, a second precursor gas, and a purge gas gases into a reaction chamber, thereby defining a deposition cycle;

~~flowing a purge gas into said reaction chamber after said first and after second precursor gases, the flowing of said first and said second precursor gases and said purge gas forming a deposition cycle; and~~

removing the gaseous effluent from the said reaction chamber to in a gas phase reaction trap; ~~said removing including trapping the gaseous effluent in a trap, said gaseous effluent having a residence time in said trap at least equal to said deposition cycle. and~~

allowing the gaseous effluent to reside in the trap for an time at least equal to the deposition cycle.

15. (currently amended) The method of ~~A method as recited in claim 14 further comprising in which said removing further comprises:~~ pumping the said gaseous effluent with a backing pump after allowing the gaseous effluent to reside in the said trap.

16. (currently amended) The method of ~~A method as recited in claim 14 further comprising in which said removing further comprises:~~ pumping the said gaseous effluent with a process pump prior to the said trap.

17. (currently amended) The method of ~~A method as recited in claim 14 wherein the in which said residence gaseous effluent resides in the trap for a time is greater than the said deposition cycle.~~

18. (currently amended) Deposition apparatus comprising:

~~a first and second precursor gas source having a source, first valve and second valves connected thereto to said first and second precursor gas sources;~~
~~a second precursor gas source having a second valve connected thereto;~~
~~a purge gas source, said purge gas source having a third valve connected thereto; , said valve permitting inert gas flow, first and said second precursor gas sources and said purge gas operate sequentially to define a deposition cycle,~~
wherein the first, second and third valves permit sequential flow of the first precursor gas, the second precursor gas and the purge gas defining a deposition cycle;
~~a reaction chamber, said reaction chamber being connected to the said first, said second, and said third valves; and~~
~~a gas phase reaction trap connected to the said reaction chamber; said , the trap having an inlet and an outlet, said inlet being connected to said reaction chamber, and an outlet, wherein the said trap has having a residence time at least equal to one deposition cycle.~~

19. (currently amended) The apparatus of Apparatus as recited in claim 18 further ~~comprising:~~ including a backing pump connected to the said outlet of the said trap and to exhaust.

20. (currently amended) The apparatus of Apparatus as recited in claim 18 wherein the ~~in which said inlet and the said outlet are at the top of the said trap.~~

21. (currently amended) The apparatus of Apparatus as recited in claim 18 ~~49~~ further including ~~comprising:~~ a process pump, ~~said process pump being~~ connected between the said inlet of the said trap and the said reaction chamber.

22. (currently amended) The apparatus of ~~Apparatus as recited in~~ claim 18 wherein ~~the in which~~ said residence time is greater than the said deposition cycle.

23. (currently amended) The apparatus of ~~Apparatus as recited in~~ claim 18 further including heating means for the ~~in which said trap further comprises:~~
a heater.

24. (currently amended) The apparatus of ~~Apparatus as recited in~~ claim 18 further including ~~in which said trap further comprises:~~ an electrode in the said trap; and a ground connection to the said trap.

25. (currently amended) The apparatus of ~~Apparatus as recited in~~ claim 18 further including ~~comprising:~~ a surge flow suppressor connected to the said outlet of the said trap.